

**REMARKS**

**INFORMATION DISCLOSURE STATEMENT**

The Applicant has just completed gathering a full collection of information on the MP300 by Technic Inc., along with other related devices, that was cited in the background section and will submit those documents this week as an Information Disclosure Statement. Please note that the Applicant is not disregarding its duty to the USPTO, but is instead determined to put together a complete listing of the known art for the Examiner's review.

**DRAWINGS**

The Applicant herein notes that the objection to the drawings has been withdrawn.

**35 USC §§102 AND 103**

Claims 1, 2, 9 and 12 are rejected under 35 USC §102(b) as being anticipated by Admitted Prior Art (Fig. 1, Page 1 of the Applicant's disclosure) or, in the alternative, under 35 USC §103(a) as obvious over Admitted Prior Art. The Applicants respectfully disagree.

Claim 1 recites:

“A plating system comprising:  
an elongated upper channel and an elongated lower channel; and  
a plating solution horizontal sparger comprising a series of inlets oriented to direct any plating solution flowing through the inlets into one and towards another of the upper and lower channels.”

As pointed out in the Specification, an improved plating system 100 is shown in **Figure 2** which provides for improved metal distribution over a work piece 900. In the improved system 100, the vertical spargers (spargers 11 in **Figure 1**) found in prior art plating systems are eliminated and fluid 800 enters the chamber 120 through the bottom of the chamber with the bottom of the chamber acting as a horizontal sparger 110. By eliminating the vertical spargers, the distance D2 between the part being plated 900 and the shields 130 can be decreased (with a corresponding decrease in the distance D4 between the fields forming the sides of the channel).

As stated in the last Response, applicant's Admitted Prior Art does not teach all of the claimed elements of the present application. “Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W. L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983) (citing *Soundscriber Corp. v. United States*, 360 F.2d 954, 148 USPQ 298, 301 (Ct. Cl.), *adopted*, 149 USPQ 640 (Ct. Cl. 1966)) Further, the prior art reference must disclose each element of the claimed invention “arranged as in the claim”. *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452,

221 USPQ 481, 485 (Fed. Cir. 1984)(citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)). Applicant's Admitted Prior Art does not teach a plating solution horizontal sparger comprising a series of inlets oriented to direct any plating solution flowing through the inlets into one and towards another of the upper and lower channels.

The Examiner responded by stating that "the vertical spargers of Admitted Prior Art as shown in Fig. 1 are broadly interpreted to be a horizontal sparger." The Applicant respectfully questions the authority of this statement. Admitted Prior Art Figure 1 shows vertical spargers that rise up from the bottom of the chamber, crowd the workpiece and effectively lead to a much larger chamber. The horizontal spargers in the present application are part of the bottom of the chamber, do not crowd the workpiece, and result in a much smaller chamber size. The Examiner needs to provide a much more detailed explanation as to how horizontal spargers on the bottom of the chamber are broadly interpreted as vertical spargers, which rise up from the floor of the chamber, crowd the workpiece and detrimentally increase the size of the chamber. The Examiner is not at his/her own discretion to make statements such as this one without sufficient detailed explanation and references which show that the two are similar enough to anticipate one another.

Based on this argument, Applicant's Admitted Prior Art does not anticipate claim 1 of the present application because Applicant's Admitted Prior Art is lacking and/or missing at least one specific feature or structural recitation found in the present application, and in claim 1. Claim 1 is therefore allowable as not being anticipated by Applicant's Admitted Prior Art. Further, Applicant's Admitted Prior Art does not anticipate claims 2, 9 and 12 of the present application by virtue of their dependency on claim 1.

In addition, Applicant's Admitted Prior Art cannot render unpatentable claim 1 of the present application, because one of ordinary skill in the art cannot possibly review the Admitted Prior Art on its face and, remove the vertical spargers, place horizontal spargers in the bottom of the chamber and arrive at claim 1. The Examiner has not provided any reasoning as to how one of ordinary skill in the art could arrive at claim 1, other than the broad and unsupported statement outlined above.

Claims 1-15 are rejected under 35 USC §103(a) as being unpatentable over Admitted Prior Art in view of Lace et al. The Applicants respectfully disagree.

Claim 1 recites:

“A plating system comprising:  
an elongated upper channel and an elongated lower channel; and  
a plating solution horizontal sparger comprising a series of inlets oriented to direct any plating solution flowing through the inlets into one and towards another of the upper and lower channels.”

Claim 15 recites:

“A plating system comprising:  
an anode, a planar cathode, a horizontal sparger, and a plurality of electrically insulating shields; wherein  
each of the plurality of shields is positioned between the anode and the cathode but not between the sparger and the cathode, and each of the plurality of shields is approximately co-planar with one of two reference planes that are substantially parallel to the cathode; and  
the sparger is adapted to direct plating fluid toward and edge of the cathode along in a plane substantially co-planar with cathode.”

As pointed out in the Specification, an improved plating system 100 is shown in **Figure 2** which provides for improved metal distribution over a work piece 900. In the improved system 100, the vertical spargers (spargers 11 in **Figure 1**) found in prior art plating systems are eliminated and fluid 800 enters the chamber 120 through the bottom of the chamber with the bottom of the chamber

acting as a horizontal sparger 110. By eliminating the vertical spargers, the distance D2 between the part being plated 900 and the shields 130 can be decreased (with a corresponding decrease in the distance D4 between the fields forming the sides of the channel).

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Lace et al. (US Patent 4772371) discloses an electroplating apparatus for high-speed electroplating a cathodic strip of metal passed therethrough. The Lace reference does not disclose a horizontal sparger that replaces vertical spargers, as shown in the Applicant’s Admitted Prior Art, and therefore, Lace does not cure the deficiencies of Applicant’s Admitted Prior Art in combination and cannot stand on its own to render claims 1 and 15 as obvious.

One of ordinary skill in the art would not read Applicant’s Admitted Prior Art and Lace, alone or in combination, and find the motivation, suggestion or teaching to produce the plating system of claims 1 and claims 15 of the Applicant’s present application. In addition, claims 2-14 are also allowable by virtue of their dependency on independent claim 1.

Honeywell Docket No. H0002233 USA - 4018  
Buchalter Docket No.: H9925-2905

**REQUEST FOR ALLOWANCE**

Claims 1-15 are pending in this application. The applicants request allowance of all pending claims.

If the Examiner does not consider the claims in condition for allowance, the Applicant respectfully requests a teleconference with the Examiner, so that a Notice of Appeal can be avoided in this matter.

Respectfully submitted,

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